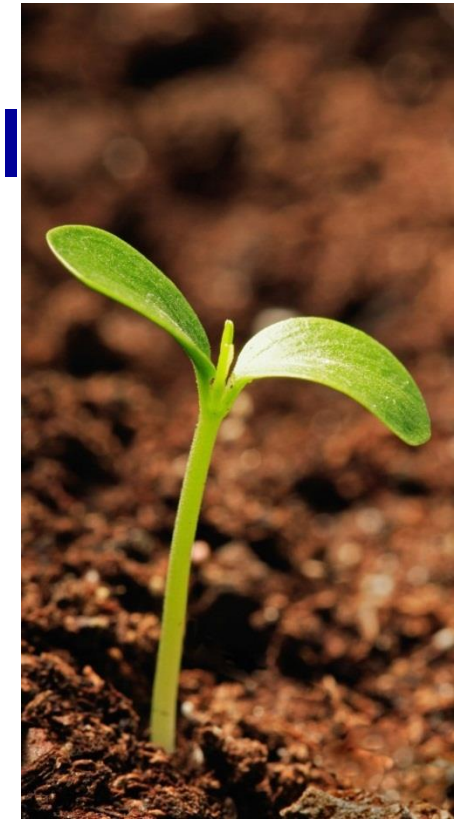
The path towards creating

Delaware's Environmental Public Health Tracking Network



Presented by : Tabatha Offutt-Powell, Dr.P.H., M.P.H.
Division of Public Health, Department of Health and Social Services

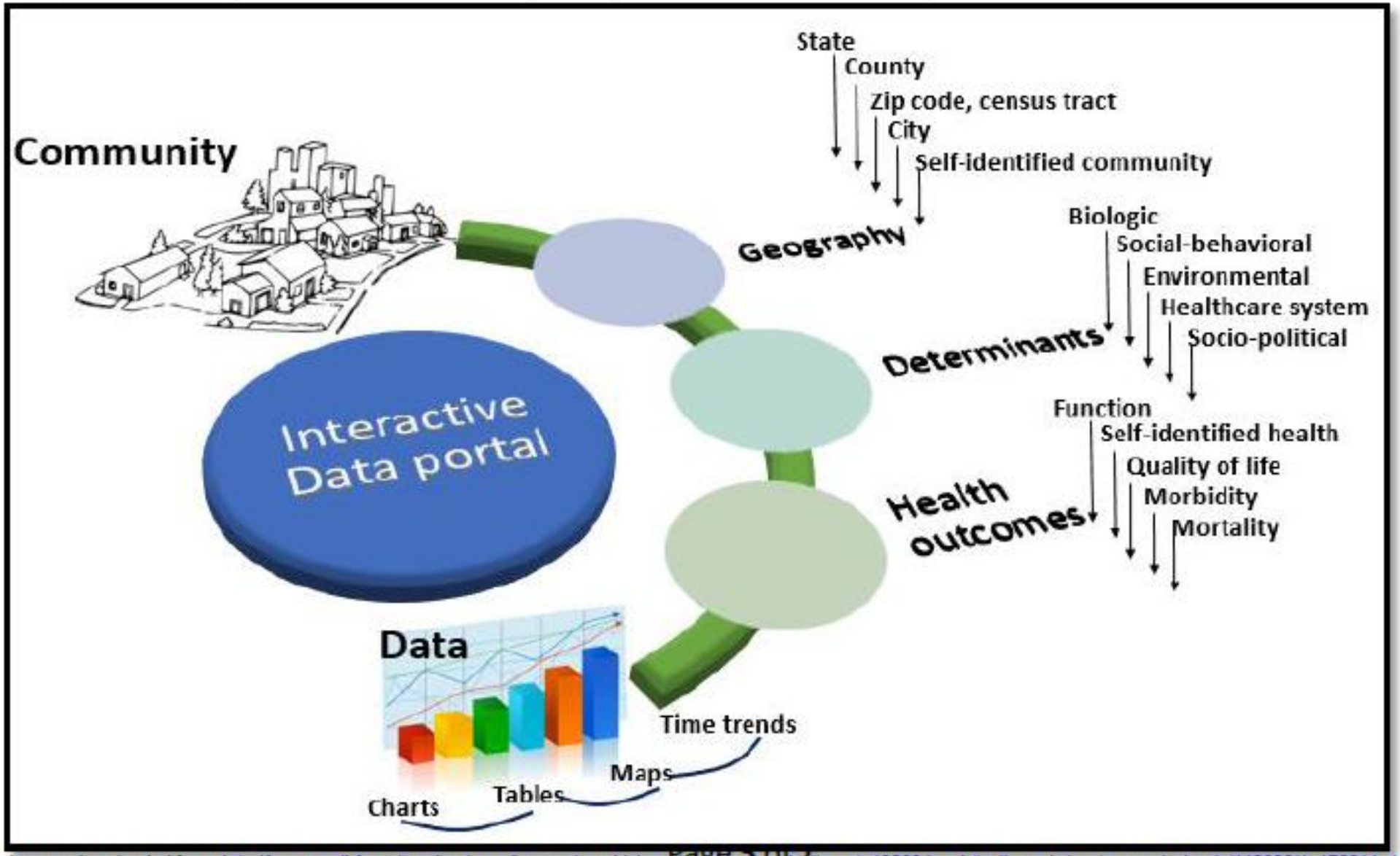
Setting the stage

- In December 2014, the Delaware Division of Public Health drafted the *Health Data for Delaware* proposal with a vision that "Delawareans have access to usable, meaningful, timely, and high-quality data about their health and the health of the communities in which they live."

…the communities in which they live…

- DPH focused its proposal on Step 2, that Delawareans must have access to data about the community in which they live.
  - Considered as a first step to improving the health of our population, reducing disparities, and improving health equity.
  - Requires that individuals have information on the social, political, economic, and environmental conditions that affect their health and the health of the community in which they live.
  - Information should be shared in readily usable and understandable formats.
- DPH proposed to develop an interactive Web-based data portal.

Figure 1. Conceptual illustration of key components within a data portal.

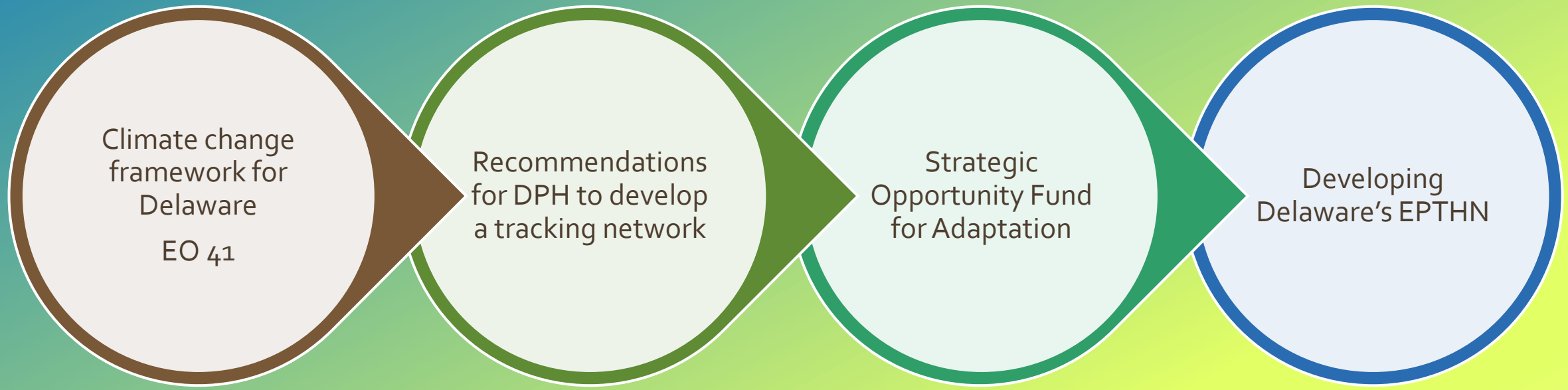


Images downloaded from: http://images.all-free-download.com/images/graphiclarge/neighborhood_clip_art_19266.jpg; http://www.hdvector.com/uploads/110322/1_170214_1.jpg

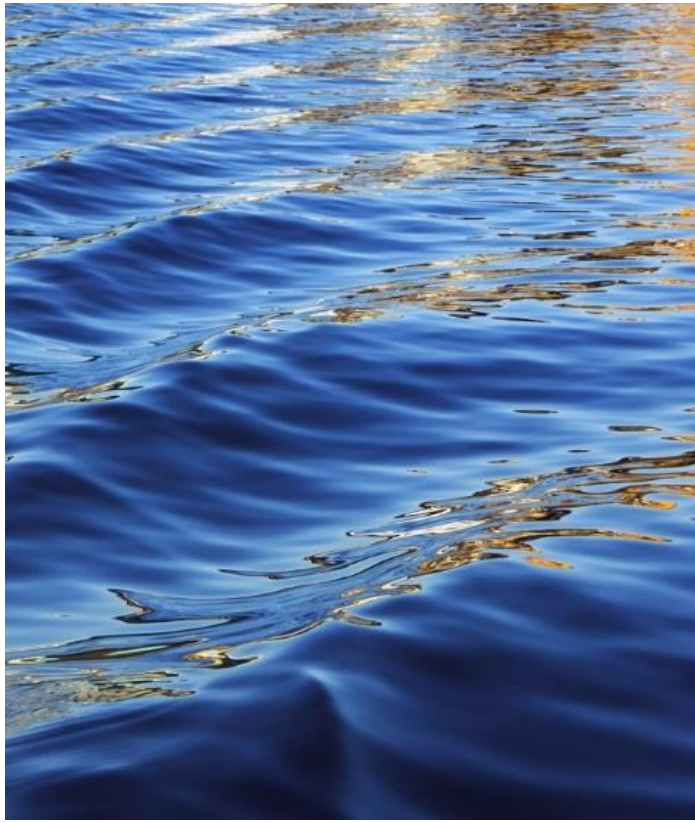
Figure 2. Illustration of an interactive Web-based data portal for Delaware communities.

Left picture: Connecticut Health Equity Index: https://www.sdoh.org/ Permission granted to use screen capture; Right picture: Florida Charts: http://www.floridacharts.com/charts/default.aspx, infant mortality.

Finding a path…


Climate change framework for Delaware
EO 41
Recommendations for DPH to develop a tracking network
Strategic Opportunity Fund for Adaptation
Developing Delaware's EPTHN

The approach for creating Delaware's tracking network



Systematic approach

1. Model after national tracking network – understand requirements.
2. Follow CDC data standards (NCDMs) to ensure comparability, validity, and high quality of data presented and shared with partners.
3. Review existing state networks – design and presentation of data – end-user experience.
4. Determine potential for using existing state infrastructure (i.e., Delaware Open Data).
5. Engage partners in Governance Committee and Technical Advisory Group.
6. Share intent to develop tracking network with internal and external stakeholders.
7. Create and develop an environment for sustainability.
8. Ensure data are available by meaningful geographic designations.

The National Environmental Public Health Tracking Network

- **2002**: initial funding to develop a national tracking network following IOM report.
- **2002-2006**: pilot projects implemented in states.
- **2006**: CDC funded 16 state tracking networks.
- Currently 26 state and local tracking networks

1

Model after national tracking network – understand requirements.

Tracking network content areas

Air quality

Drinking water quality

Childhood lead exposure

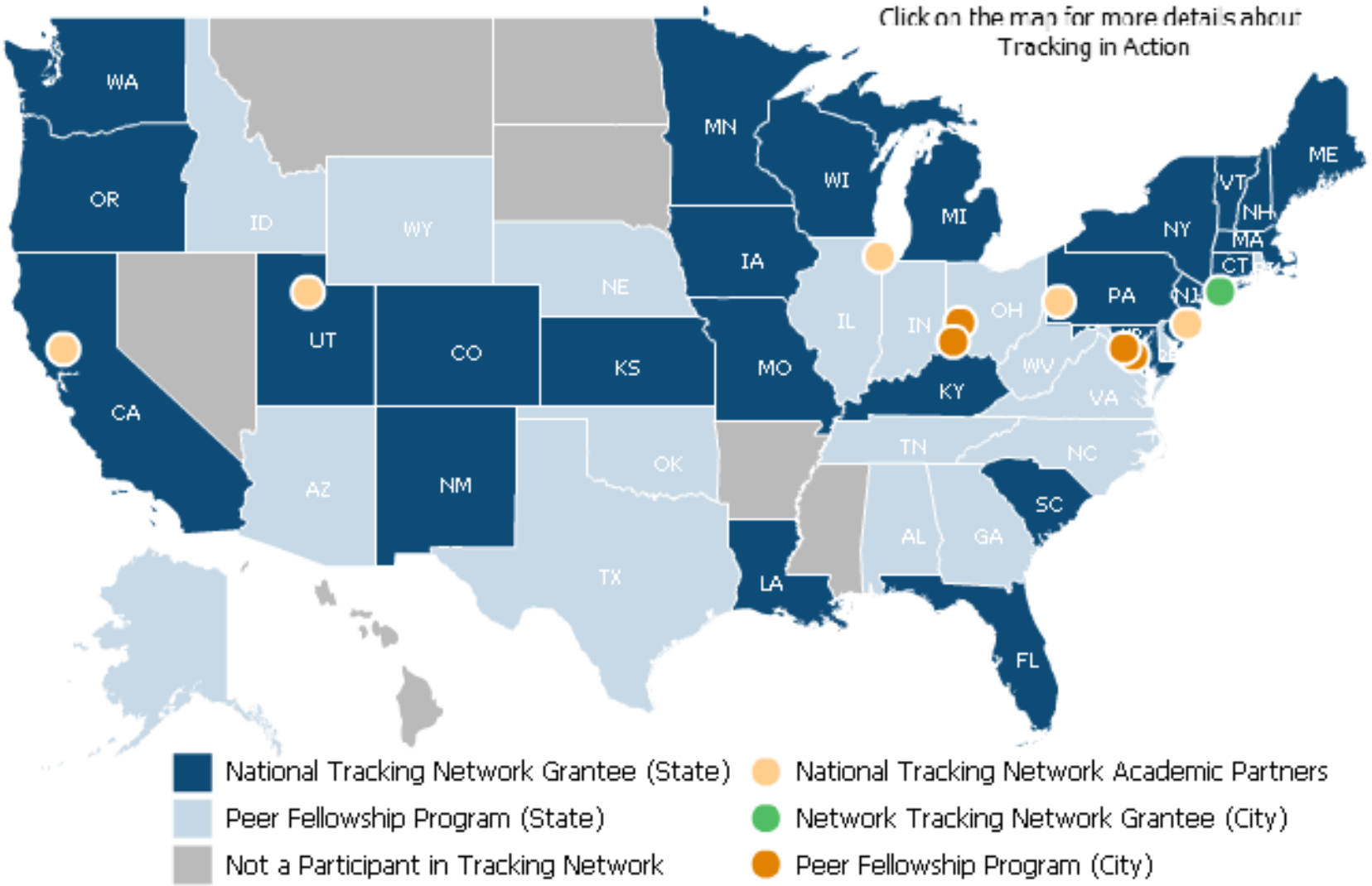
Birth defects

Reproductive health outcomes

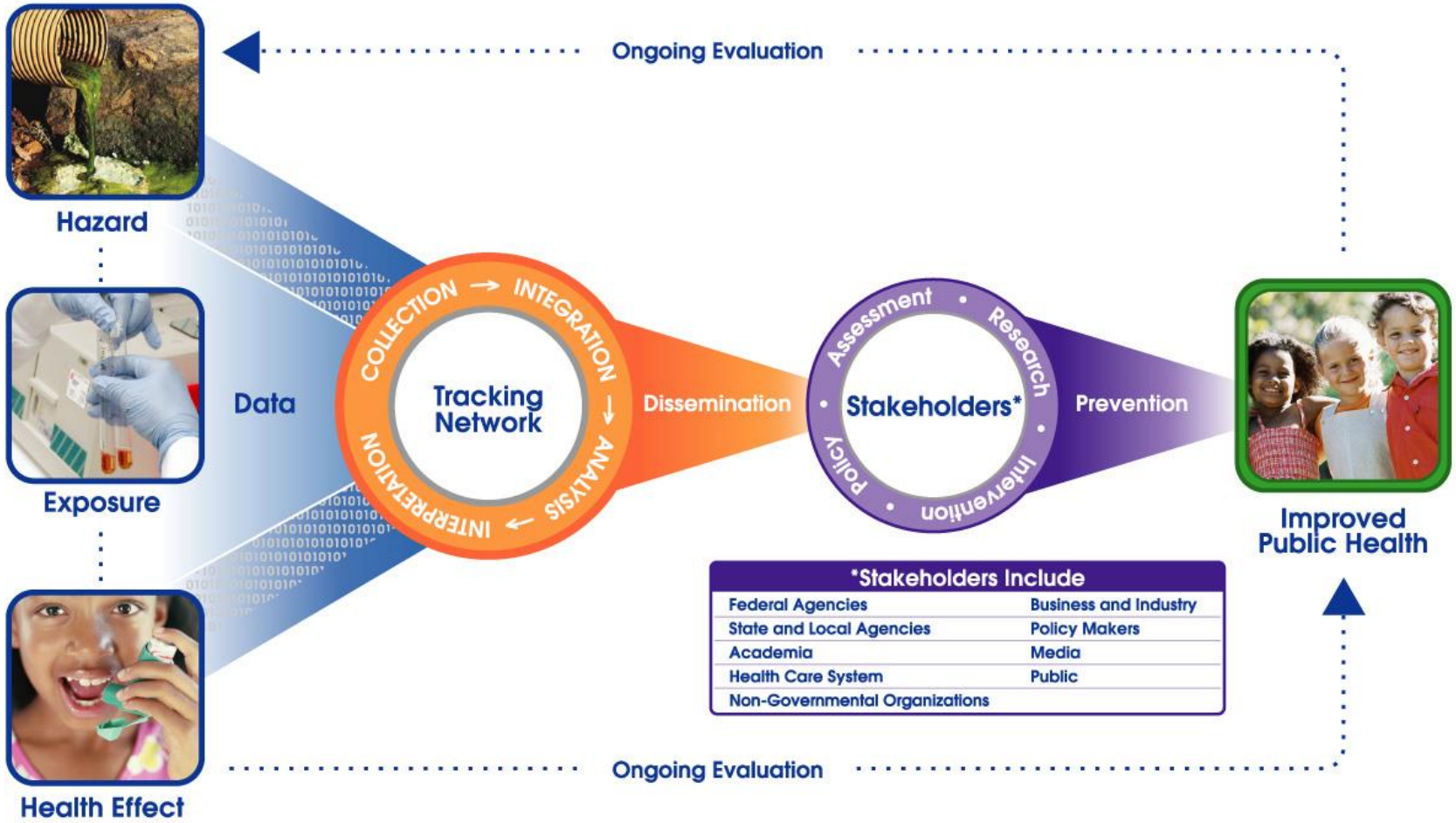
Hospitalization data

Carbon monoxide poisoning

Tracking in action



Environmental Public Health Tracking

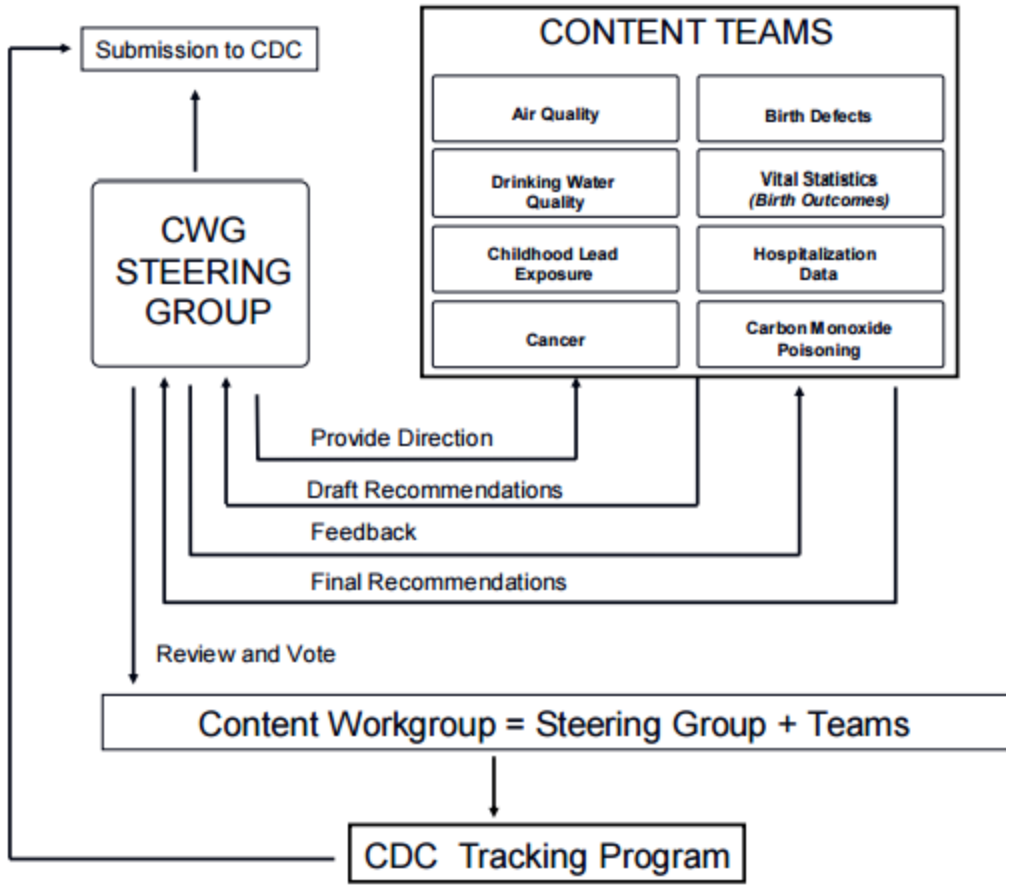


Department of Health and Human Services
Centers for Disease Control and Prevention
Safer • Healthier • People

Nationally consistent data and measures

- Ensure compatibility and comparability of the data across states.
- Health and environmental agencies have a long history of tracking trends in health and environmental factors separately.

Figure 1: Content Work Group (CWG) Structure and Process, 2006 - 2010



Follow CDC data standards (NCDMs) to ensure comparability, validity, and high quality of data presented and shared with partners.

NCDMs of air quality

EPHT Air Data

EPA AQS
Date
Lat/long of monitor
Monitor ID
Parameter (ozone or PM2.5)
Concentration

EPA Statistically Combined Data
Date
Lat/long of grid cell centroid
Grid cell ID
Parameter (ozone or PM2.5)
Concentration
Standard error of conc.

Linked Analyses
(EPHT State & Multistate Analyses)
Measure short-term association between Asthma or MI and PM2.5/ozone, focusing on effect modification by individual and ZIP code level risk factors and potentially identifying regional or temporal differences in C-R functions.

EPHT Hospital data
(limited access to safeguard confidential data – secure state systems)

Daily counts of admissions
Date
ZIP code
admissions
ICD (asthma or MI)
Age group

Census Data
Population by year and county

C-R functions
From peer-reviewed literature

EPHT Hospital Indicators
Annual number of asthma and myocardial infarction (MI) hospitalizations by county

Other indicators include crude, age-specific, and age-adjusted rates by gender and county

EPHT Air Indicators
Average annual PM2.5 concentration by county/year

percent of the pop living in areas exceeding annual PM2.5 standard

%of days and # person-days above daily PM2.5 standard

# of days and # person-days above daily ozone standard

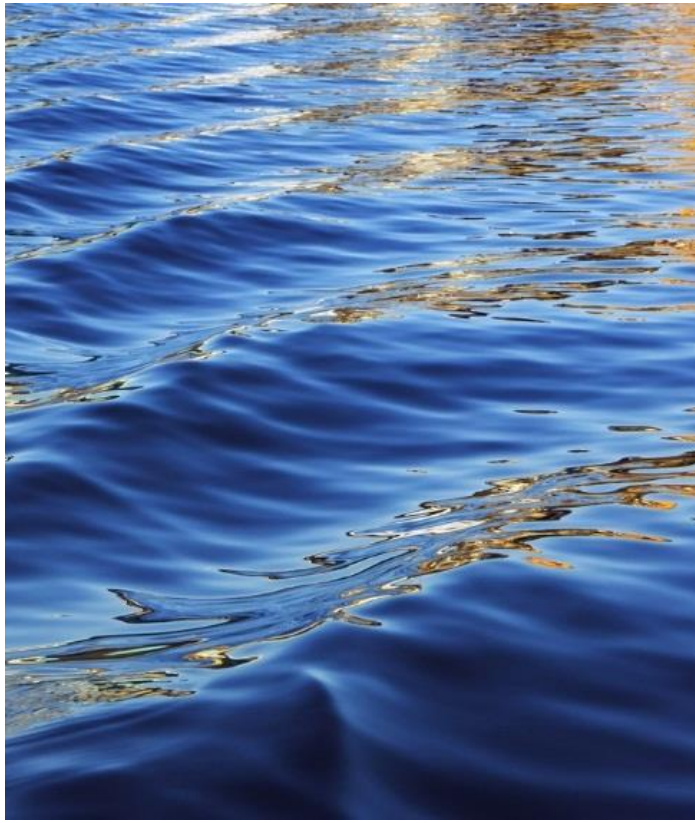
Could be used for long-term PM estimate

EPHT Linked Indicators
Long- and short-term association
Comprehensive assessment based on multiple outcomes

Examples:
deaths attributable to long-term PM
deaths and asthma hosp attributable to short-term ozone exposure

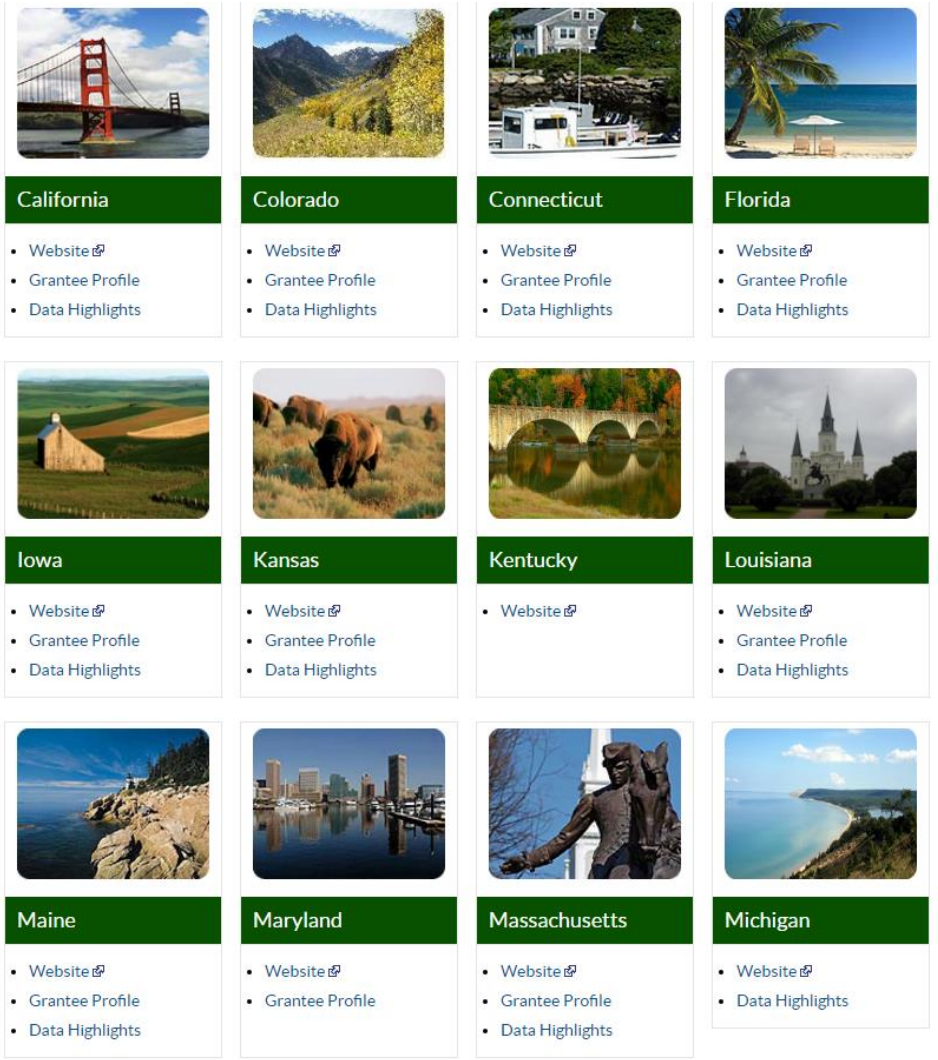
Mortality Data
(National Data on CDC Wonder Website)
Deaths by cause, county, and year

State tracking networks



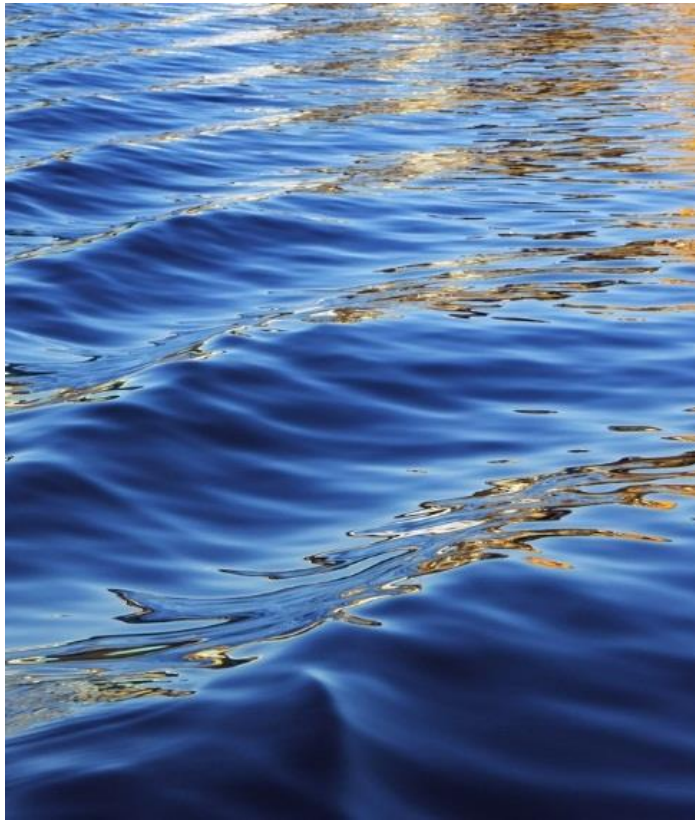
State tracking networks

- State-specific data that may not already be available at the national level.
- Opportunity to present data in geographic designations that are meaningful for Delaware.
  - Aggregation of census tracts into communities.
  - More granularity than what is presented on national tracking network.

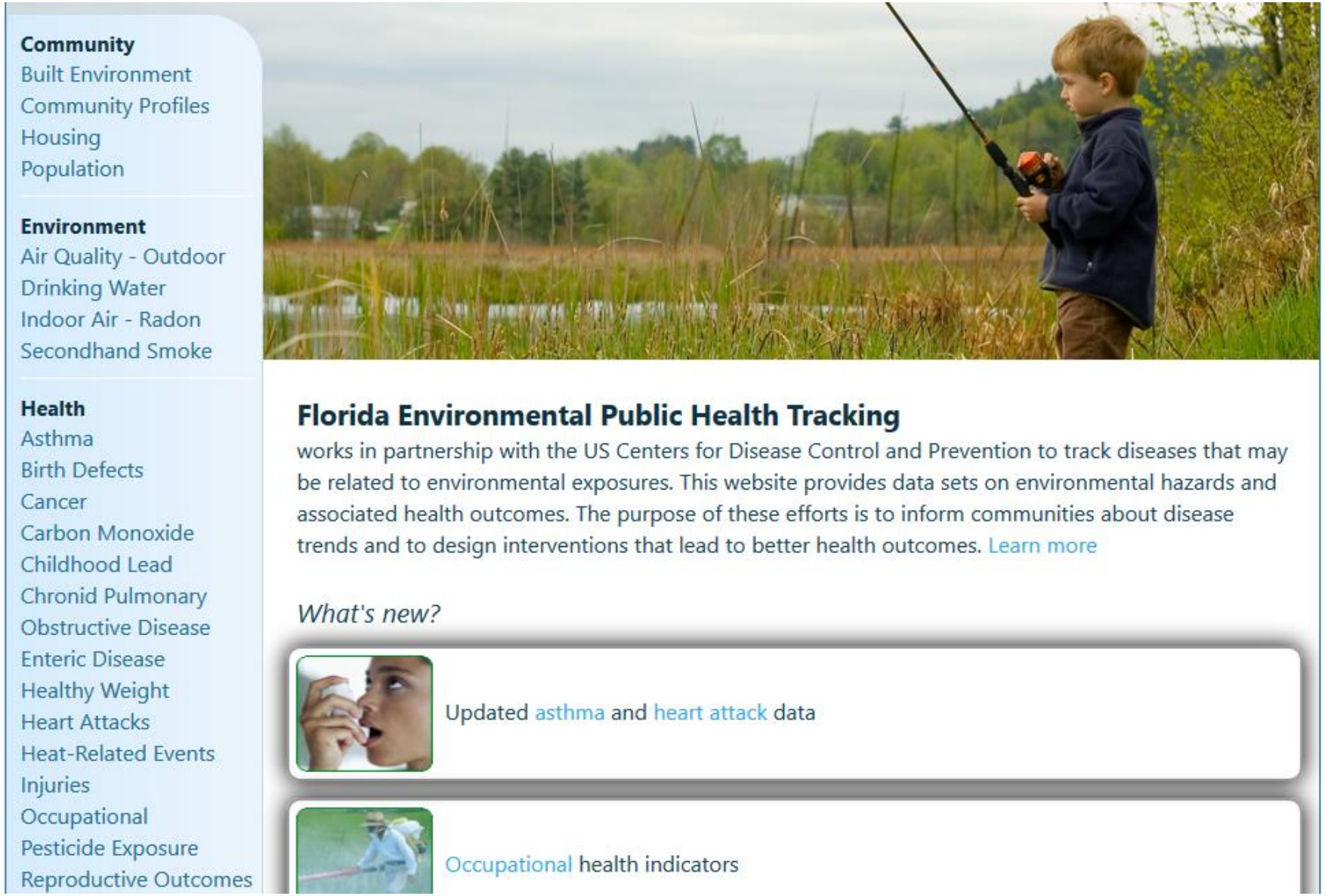


Review existing state networks – design and presentation of data – end-user experience.

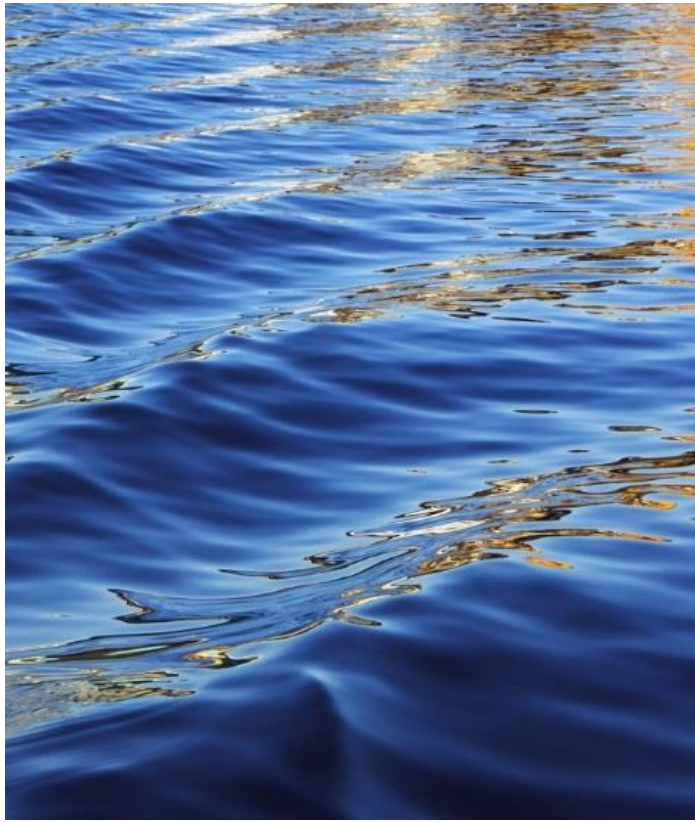
Florida's tracking network



Florida's tracking network



Florida Charts



County profiles

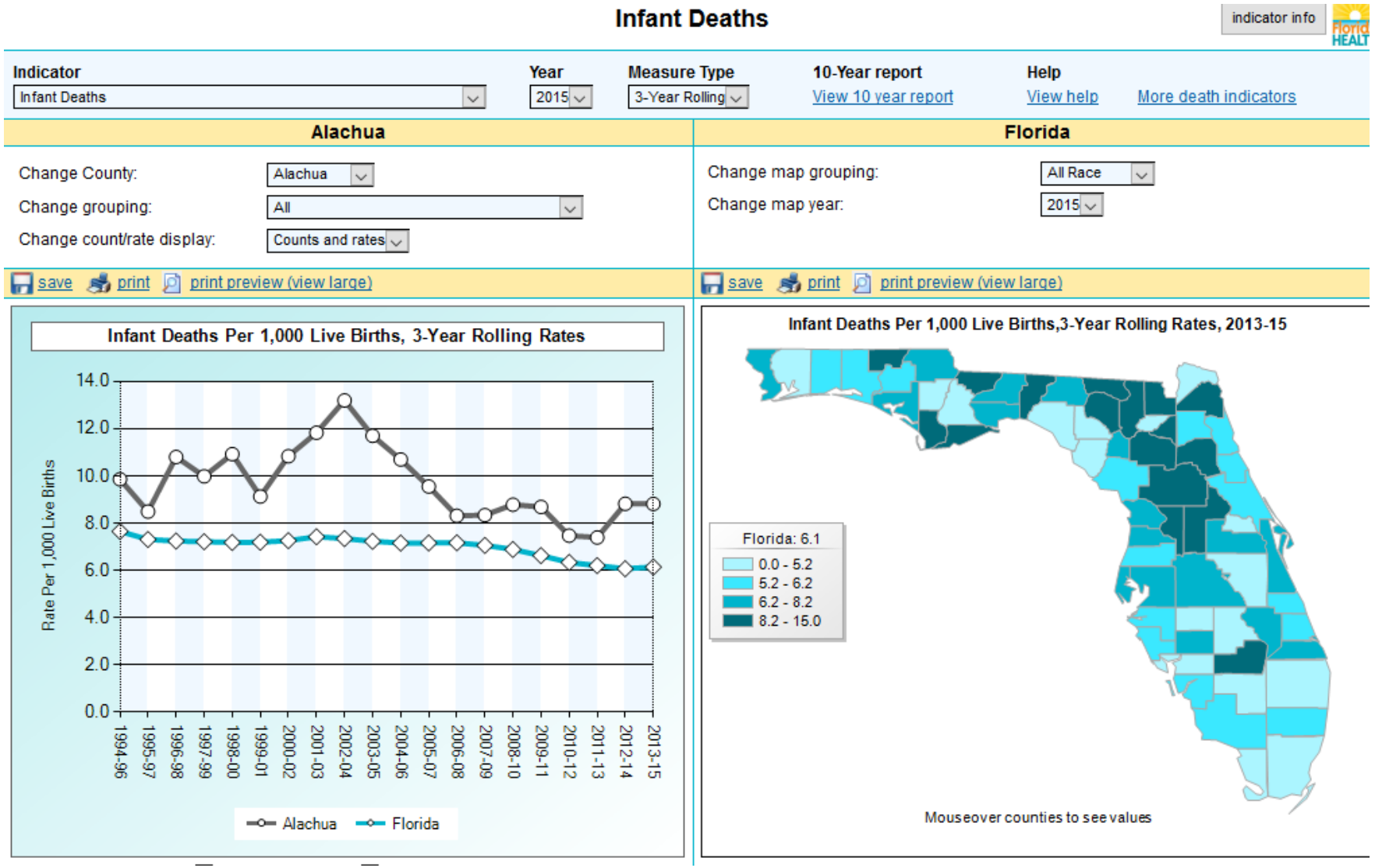
Florida HEALTH

Healthiest Weig

Alachua County

Indicator	Year(s)	Rate Type					
Socio-Demographic Characteristics							
Total county population[1]	2014	Count					
Population under 18 Years Old[1]	2014	Percent of Total Pop					
Population 18-64 Years Old[1]	2014	Percent of Total Pop					
Population 65+ Years Old[1]	2014	Percent of Total Pop					
Population - White[1]	2014	Percent of Total Pop					
Population - Black[1]	2014	Percent of Total Pop					
Population - Other[1]	2014	Percent of Total Pop					
Population - Hispanic[1]	2014	Percent of Total Pop					
Population - Non-Hispanic[1]	2014	Percent of Total Pop					
Population below 100% poverty[2]	2013 5-yr est	Percent					
Population 5+ that speak English less than very well[3]	2013 5-yr est	Percent					
Adults 18-64 with any health care coverage[4]	2013	Percent					
Adults reporting a personal doctor or health care provider[4]	2013	Percent					
Weight, Activity, and Eating Habits among Adults							
Adults who are at a healthy weight[4]	2013	Percent					
Adults who are underweight[4]	2013	Percent					
Adults who are overweight or obese[4]	2013	Percent					
Adults who are overweight[4]	2013	Percent		32.4%	1		36.4%
Adults who are obese[4]	2013	Percent		24.4%	1		26.4%
Adults who participated in 150 minutes or more (or vigorous equivalent minutes) of aerobic physical activity per week[4]	2013	Percent		57.1%	1		50.2%
Adults who participated in muscle strengthening exercises two or more times per week[4]	2013	Percent		38.2%	1		29.6%
Adults who participated in enough aerobic and muscle strengthening exercises to meet guidelines[4]	2013	Percent		25.4%	1		19.9%
Adults who are sedentary[4]	2013	Percent		19.7%	1		27.7%
Adults who consume at least 5 servings of fruits and vegetables a day[4]	2013	Percent		19.7%	1		18.3%
Weight, Activity, and Eating Habits among Children and Teens							
Middle and high school students who are at a healthy weight[5]	2014	Percent		70.3%	1		67.6%
Middle and high school students who are underweight[5]	2014	Percent		3.4%	1		4.2%
Middle and high school students who are overweight or obese[5]	2014	Percent		26.2%	1		28.2%
Middle and high school students who are overweight[5]	2014	Percent		14.8%	1		15.8%
Middle and high school students who are obese[5]	2014	Percent		11.4%	1		12.4%
Middle and high school students who were physically active for at least 60 minutes per day on all 7 of the past days[5]	2014	Percent		24.5%	3		22.9%
Maternal Weight and Breastfeeding among Mothers							
Live births to mothers who are at a healthy weight (BMI 18.5-24.9) at time pregnancy occurred[6]	2014	Percent of Live Births	1,323	45.4%	2	97,364	44.3%
Births to Underweight Mothers at time Pregnancy Occurred	2014	Percent of Live Births	323	11.1%	3	23,594	10.7%
Live births to mothers who are overweight (BMI 25.0-29.9) at time pregnancy occurred[6]	2014	Percent of Live Births	658	22.6%	2	53,059	24.1%
Live births to mothers who are obese (BMI>=30) at time pregnancy occurred[6]	2014	Percent of Live Births	722	24.8%	3	47,243	21.5%
Live births to mothers who initiate breastfeeding[6]	2014	Percent of Live Births	2,505	85.9%	1	185,186	84.2%

Florida Charts



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1996-98	80	7,405	10.8*	2.4	4,178	577,206	7.2	0.2
1997-99	73	7,314	10.0*	2.3	4,216	584,831	7.2	0.2
1998-00	81	7,416	10.9*	2.4	4,281	596,557	7.2	0.2
1999-01	68	7,451	9.1	2.2	4,361	606,793	7.2	0.2
2000-02	81	7,475	10.8*	2.3	4,466	615,410	7.3	0.2
2001-03	87	7,355	11.8*	2.5	4,627	623,623	7.4	0.2
2002-04	99	7,500	13.2*	2.6	4,668	635,868	7.3	0.2
2003-05	91	7,777	11.7*	2.4	4,746	656,507	7.2	0.2
2004-06	87	8,134	10.7*	2.2	4,875	681,430	7.2	0.2
2005-07	80	8,376	9.6*	2.1	5,028	702,505	7.2	0.2
2006-08	72	8,666	8.3	1.9	5,069	707,703	7.2	0.2
2007-09	73	8,754	8.3	1.9	4,881	691,928	7.1	0.2
2008-10	77	8,771	8.8	2.0	4,592	667,327	6.9	0.2
2009-11	76	8,751	8.7*	1.9	4,297	649,147	6.6	0.2

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Bay	56	6,963	8.0	2.1
Bradford	13	888	14.6*	7.9
Brevard	97	15,581	6.2	1.2
Broward	346	66,061	5.2*	0.6
Calhoun	2	418	4.8	
Charlotte	12	3,058	3.9*	2.2
Citrus	25	3,054	8.2	3.2
Clay	34	6,396	5.3	1.8
Collier	56	9,698	5.8	1.5
Columbia	21	2,483	8.5	3.6
Miami-Dade	440	95,569	4.6*	0.4
De Soto	9	1,123	8.0	5.2
Dixie	1	467	2.1	
Duval	324	38,110	8.5*	0.9
Escambia	88	11,586	7.6	1.6

FloridaCHARTS.com is provided by the Florida Department of Health, Division of Public Health Statistics & Performance Management.

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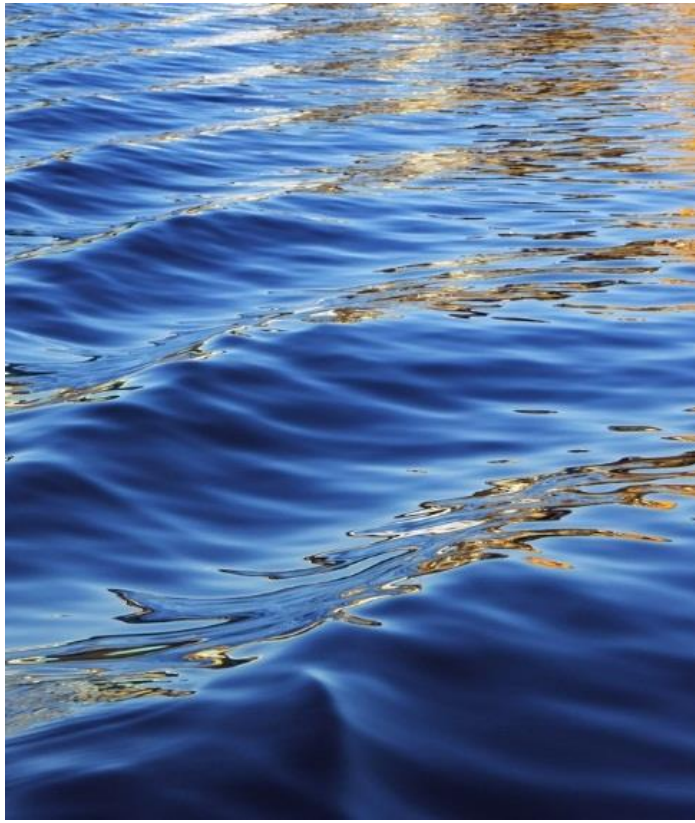
Data Source: Florida Department of Health, Bureau of Vital Statistics

New Hampshire's tracking network



New Hampshire

Environmental Public Health Tracking

Making the Connection between Health and Environment

News | About Us

Tracking Air Quality

Tracking Cancer

Tracking Drinking Water

Tracking Asthma

Tracking Climate Change

Tracking Heart Disease

Tracking Birth Conditions and Outcomes

Tracking CO Poisoning

Tracking Radon

Tracking Childhood Lead Poisoning

Air quality

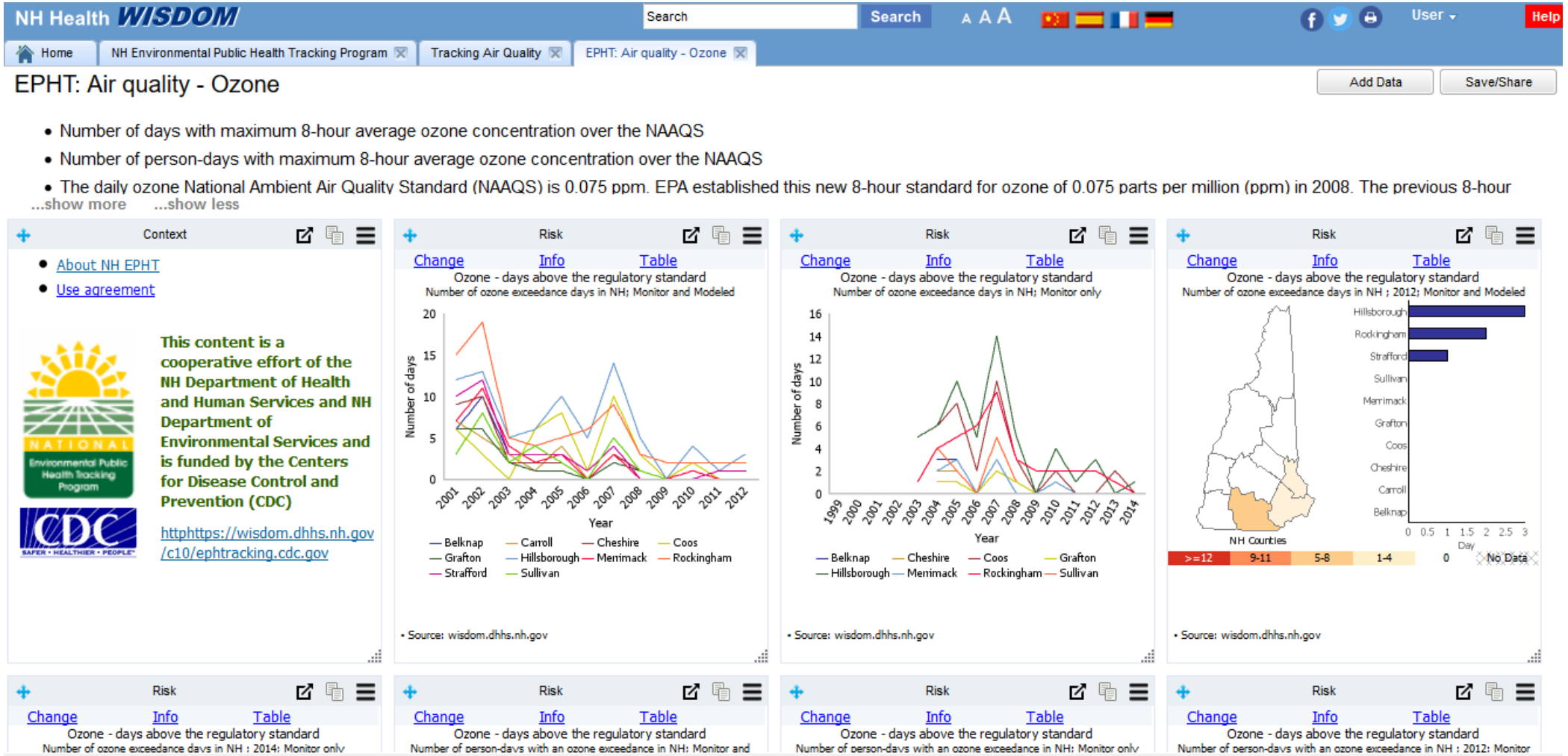

NH Health WISDOM
Search
Search
User
Help
Home
NH Environmental Public Health Tracking Program
Tracking Air Quality
EPHT: Air quality - Ozone
EPHT: Air quality - Ozone
Add Data
Save/Share
• Number of days with maximum 8-hour average ozone concentration over the NAAQS
• Number of person-days with maximum 8-hour average ozone concentration over the NAAQS
• The daily ozone National Ambient Air Quality Standard (NAAQS) is 0.075 ppm. EPA established this new 8-hour standard for ozone of 0.075 parts per million (ppm) in 2008. The previous 8-hour
...show more
...show less
Context
About NH EPHT
Use agreement
This content is a cooperative effort of the NH Department of Health and Human Services and NH Department of Environmental Services and is funded by the Centers for Disease Control and Prevention (CDC)
httphttps://wisdom.dhhs.nh.gov/c10/ephtracking.cdc.gov
Risk
Change
Info
Table
Ozone - days above the regulatory standard
Number of ozone exceedance days in NH; Monitor and Modeled
Number of days
Year
Belknap
Carroll
Cheshire
Coos
Grafton
Hillsborough
Merrimack
Rockingham
Strafford
Sullivan
• Source: wisdom.dhhs.nh.gov
Risk
Change
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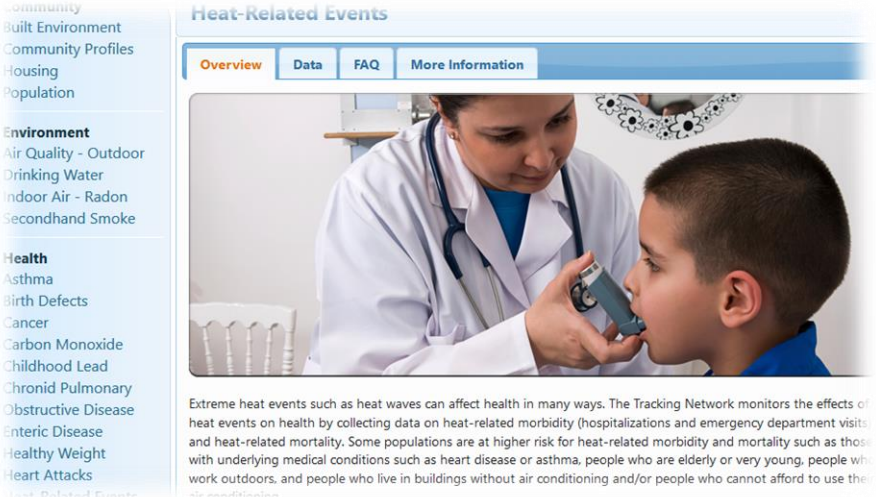
Table
Ozone - days above the regulatory standard
Number of ozone exceedance days in NH; Monitor only
Number of days
Year
Belknap
Cheshire
Coos
Grafton
Hillsborough
Merrimack
Rockingham
Sullivan
• Source: wisdom.dhhs.nh.gov
Risk
Change
Info
Table
Ozone - days above the regulatory standard
Number of ozone exceedance days in NH ; 2012; Monitor and Modeled
Hillsborough
Rockingham
Strafford
Sullivan
Merrimack
Grafton
Coos
Cheshire
Carroll
Belknap
NH Counties
Day
>=12
9-11
5-8
1-4
0
No Data
• Source: wisdom.dhhs.nh.gov
Risk
Change
Info
Table
Ozone - days above the regulatory standard
Number of ozone exceedance days in NH ; 2014; Monitor only
Risk
Change
Info
Table
Ozone - days above the regulatory standard
Number of person-days with an ozone exceedance in NH; Monitor and
Risk
Change
Info
Table
Ozone - days above the regulatory standard
Number of person-days with an ozone exceedance in NH; Monitor only
Risk
Change
Info
Table
Ozone - days above the regulatory standard
Number of person-days with an ozone exceedance in NH ; 2012; Monitor

Delaware tracking network

- Reviewed existing state tracking networks to identify the "best parts" of each state network to use for the development of Delaware's network.
- Reviewed and included existing nationally consistent data and measures as a requirement.
  - Enables participation in national tracking network.
  - Ensures that when CDC funding becomes available, our state tracking network meets the requirements for funding
- Ensure that data are stratified by community into community profiles (similar to Florida Charts).
- Ensure that the system is flexible and can be modified by DPH staff when updated data are available.
- Funding is available to develop the data portal; will include selected environmental and health data.

The tracking network is more than data…

- Tool for relevant health and environmental information.
- Points the community to valuable resources.
- Highlights the use of the data for health impact assessments – improvement of population health.
- Tool that provides information to the community in a usable format that can be translated into action through the generation of hypotheses about causes and underlying mechanisms that should be explored.



Thank you!

Questions?